

Conference of the Specialists for Refractories of the Moscow Oblast SCV/131-53-7-12/14

the low technical level of these works. Other reports were delivered by:

- 1) V.I. Sokolov and I.G. Ul'fskiy on the mechanization plans, on the automation of production processes, as well as on the modernization of the Leningrad Institute for Refractories.
- 2) K.A. Krasotin, D.S. Rutman and I.A. Suvorov on the modernization and mechanization of the Podol'sk works by its laborers and staff.
- 3) L.V. Vinogradova on highly-refractory products.
- 4) D.M. Poluboyarinov, Professor, Doctor of Technical Sciences, on the oxides of various metals used for the production of refractories.
- 5) M.I. Gurova and M.I. Krivoy on the introduction of new refractories in the Snigirevskiy works.
- 6) M.A. Rabinovich on measures taken for improving the work of the heating aggregates at the Snigirevskiy works.
- 7) T.A. Reynard on improvements in the Vnukovo works.
- 8) M.F. Shcheglova on rationalization work in the Domodedovo works.
- 9) Z.Ye. Dobrin on experiments at the Borovichi kombinat for refractories.

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Conference of the Specialists for Refractories of SOV/ 131-58-7-12/14  
the Moscow Oblast

- 10) M.P. Dovnar on the dust removal in the Stalingorsk works.
  - 11) S.D. Skorokhod on demands set up by the metallurgists of the "Elektrostal' " works concerning refractories.
- The participants approved of the measures outlined by the Moscow Oblast Council of National Economy to be taken for a further perfection and an increase of the production of the works in the area. It was recommended to intensify research work.

1. Ceramic materials--USSR 2. Conferences

Card 3/3

SHCHEGLOVA, M.I., mladshiy nauchnyy sotrudnik

Investigating the elbow and the conical bell mouth as water meters  
in the PG35M and PG35K2 pumps of the Central Asia Scientific  
Research Institute of Irrigation. Trudy SANIIRI no.106:47-59 '60.  
(MIRA 14:5)

(Water meters)

(Pumping machinery)

3  
3

SHCHEGLOVA, M. K.

"Variability of Typhoid-Paratyphoid Bacteria," Avtoreferaty Dokladov 19-y Nauchnoy Sessii Saratovskogo Gosudarstvennogo Med. Inst., Saratov, 1952, pp 191, 192.

SHCHEGLOVA, M.K.

Variability of typhoid and paratyphoid bacteria. Zhur.mikrobiol.epid.  
(MLRA 7:5)  
i immun. no.4:78 Ap '54.

1. Iz kafedry mikrobiologii Saratovskogo meditsinskogo instituta.  
(Typhoid fever) (Paratyphoid fever) (Bacteria, Pathogenic)

SHCHEGLOVA, M. K., KHINCHUK, A. G., KUSINA, YE. P., FEYGEL'SON, A. S.

"On the mechanism of the therapeutic effect of penicillin and syntomycin in an experiment."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

SHCHEGLOVA M.K.

Antibiotic action on the causative agent of listerellosis. Antibiotiki, 4 no.2:53-57 M-Ap '59. (MIRA 12:7)

1. Kafedra mikrobiologii (zav. - prof. S.I. Sherishorina) Saratovskogo meditsinskogo instituta.

(LISTERIA, eff. of drugs on  
chloramphenicol, chlortetracycline, penicillin & streptomycin  
(Rus))

(CHLORAMPHENICOL, eff.  
on Listeria (Rus))

(CHLORTETRACYCLINE, eff.  
same)

(PENICILLIN, eff.  
same)

(STREPTOMYCIN, eff.  
same)

DR. GROMOVA, Larina Konstantin and

action of penicillin on (pyogenicity) streptococcus.

Dissertation for candidate of medical science is rec.

Chair of Microbiology (head prof. D.M. Cherishorina) Saratov Medical  
Institute, 1958



SHCHEGLOVA, M.K.

Influence of penicillin on the virulence of Staphylococcus.  
Trudy Sar. gos. med. inst. 26:197-201 '59. (MIRA 14:2)

1. Saratovskiy meditsinskiy institut, kafedra mikrobiologii  
(zav. - prof. S.I. Sherishorina).  
(STAPHYLOCOCCUS) (PENICILLIN)

SHCHEGLOVA, M.K.

Listerella bacteriophage. Report No. 1. Trudy Sar. gos. med.  
inst. 26:230-232 '59. (MIRA 14:2)

1. Saratovskiy meditsinskiy institut, kafedra mikrobiologii  
(zav.- prof. S.I. Sherishorina).  
(LISTERELLA) (BACTERIOLOGY—CULTURES AND CULTURE MEDIA)  
(BACTERIOPHAGE)

SHCHEGLOVA, M.K.

Some properties of a Listeria bacteriophage. Zhur. mikrobiol.,  
epid. i immun. 33 no.1:99-102 Ja '62. (MIRA 15:3)

1. Iz Saratovskogo meditsinskogo instituta.  
(LISTERELLA) (BACTERIOPHAGE)

177  
S/052/61/006/004/004/005  
C111/C222

/h. 6200

AUTHORS: Bol'shev, L.N., Gladkov, B.V., Shcheglova, M.V.

TITLE: Tables for calculation of B and Z-distribution functions

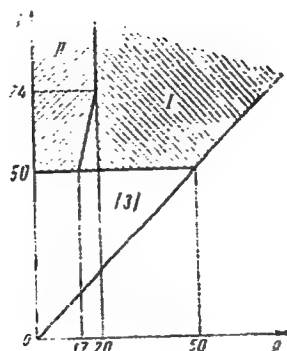
PERIODICAL: Teoriya veroyatnostey i yeye primeneniye, v. 6, no. 4, 1961,  
446 - 455

TEXT: Tables I and II for the determination of the B and Z - distribution functions  $I_x(p,q)$  and  $F_{2p,2q}(z)$  are given on four pages. The tables complement the tables given by K. Pearson (Ref. 3 : Tables of the Incomplete Beta-function, Biometric Laboratory, London, 1934). The figure ✓

Card 1/4

Tables for calculation of  $B \dots$

S/052/61/006/004/004/005  
C111/C222



shows the regions of the  $(p, q)$  - plane in which tables I, II and those of (Ref. 3), respectively, are to be used. Table I gives the values of  $10^5 p_1(u, v)$  and  $10^5 p_2(u, v)$ , where  $p_1$  and  $p_2$  are the correction terms

Card 2/4

S/052/61/006/004/004/005  
2111/0205

Tables for calculation of B . . .

in the formula

$$I_x(p, q) = \Phi(u) + \frac{1}{2} \varphi_1(u, r) + \frac{1}{24} \varphi_2(u, r) + O(r^3) \quad (1)$$

of J. W. . . . An approximate formula for the cumulative distribution  
Ann. Math. Statistics, 28: 2 (1957) 504-510). Table II gives the values  
of  $\varphi_1$  and  $\varphi_2$  in the formula

$$I_x(p, q) = \Phi(u) + \frac{1}{2} \varphi_1(u, r) + \frac{1}{24} \varphi_2(u, r) + O(r^3) \quad (6)$$

of L.V. . . . (ref. 10 : Ob otsenkakh veroyatnostey / On estimates of  
probabilities). Teoriya veroyat. i yeye primen., V. 4 (1980), 453-457).

The error resulting from using the tables is not larger than  $5 \cdot 10^{-5}$ .  
The possibility of using the tables to calculate the binomial  
distribution is mentioned

Mezhenko, . . . (Kolmogorov, Academician.

Card 3/6

Table 1: Distribution of P ...

5/052/61/006/004/004/005  
0011/C222

There are 10 figures: 5 Soviet-bloc and 5 non-Soviet-bloc references. The references to English language publications read as follows: B. Peirson, Tables of the Incomplete Beta-function, Biometrika Laboratory, London, 1934; Tables of the Binomial Probability Distribution, National Bureau of Standards, Applied Mathematics Series, 6, Washington, 1950; H.G. Bomig, 50-100 Binomial Tables, New York, John Wiley & Sons, Inc., London, Chapman & Hall, Limited, 1953; J. Wishart, An approximate formula for the cumulative z-distribution, Ann. Math. Statist. 4, 1953, 10-11, 104-110.

SUBMITTED: June 12, 1950

C-1 4/4

BOL'SHEV, L.N.; GLADKOV, B.V.; SHCHEGLOV, M.V. (Moscow)

Tables for calculating F... Distribution Functions. Teor.  
veroiat. i ee prim. 6... 446 455... (MIRA 14:11)  
(Probabilities... etc.)

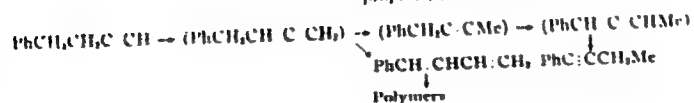


Isomerization of unsaturated hydrocarbons in contact with metallic oxides. V. Isomerization of 4-phenyl-1-butene and 5-phenyl-1-pentene on oxides of aluminum and chromium. R. Ya. Levina and N. A. Shcheglova, *J. Gen. Chem. (U. S. S. R.)* 11, 527-33 (1941); cf. C. A. 35, 2170. One of the authors previously reported the isomerization of allyl-substituted aromatic hydrocarbons in contact with oxides of Al, Cr and Fe, as well as with Pt and Pd, at the low temps. of 200-300°, with a double bond shift from the gamma to the beta position; a shift to the alpha position was reported on a Pt surface. In the present work the latter type of isomerization was studied on the surfaces of oxides of Al and Cr. 4-Phenyl-1-butene was passed over  $Al_2O_3$  at the rate of 0.1 cc./min. in a weak stream of  $CO_2$  at 250° (a few expts. at 225° and 300°). The condensate yielded a fraction, b.p. 71.4°,  $n_D^{20}$  1.5175; dibromide, m. 69.5-70.5° (from  $BrOH$ ). In further expts. the hydrocarbon was passed under similar conditions over Cr oxide at 250° (1 run at 225°); after fractionating and recycling of the product over Cr oxide the main fraction of the condensate had the properties of 4-phenyl-1-butene, b.p. 65.6-66°,  $n_D^{20}$  1.5378,  $d_4^{20}$  0.9000; dibromide m. 70.1°. These expts. show the isomerization with double-bond shift from the 1- to the 3-position. Treatment as above of 5-phenyl-1-pentene (from  $CH_3CHCH_2Cl$  and  $PhCH_2CH_2MgBr$ ) at 250° on

Cr oxide yielded 5-phenyl-4-pentene, b.p. 99-101°,  $n_D^{20}$  1.5330,  $d_4^{20}$  0.9025; dibromide, m. 60-1.5°. The latter hydrocarbon was synthesized by reaction of  $BzH$  with  $BuMgBr$  followed by dehydration of the carbinol by  $Al_2O_3$  at 300-350°, b.p. 99-100°,  $n_D^{20}$  1.5300,  $d_4^{20}$  0.9025; dibromide, m. 61-2°. Comparison of the phys. properties of the isomerized and synthetic hydrocarbons established their identity. Thus, in this case a 1-double bond was shifted to a 4-position, an isomerization not previously reported in the literature. In both cases it should be noted that the final position of the double bond is that of conjugation with the benzene ring. VI. Isomerization of 4-phenyl-1-butyne on chromium oxide. R. Ya. Levina and E. M. Panov. *Ibid.* 1941, 6. - The previous work on the isomerization of the double bond in alkylated benzenes was extended to the acetylenic compds. In the present work the isomerization of 4-phenyl-1-butyne in contact with Cr oxide at 250° was investigated. The starting material was synthesized by bromination of the corresponding ethylenic compd., followed by dehydrohalogenation with  $NaNH_2$ . The hydrocarbon was passed over Cr oxide at the rate of 0.1 cc. min. in a weak stream of  $CO_2$ . Considerable difficulty was experienced because of polymer formation. The distillate (25-30% of the original) was purified by  $AgNO_3$  treatment and the unreacted portion on distn. yielded a hydrocarbon,  $C_{10}H_{10}$ , b.p. 78-80°,  $n_D^{20}$  1.5482,  $d_4^{20}$  0.9235. 4-Phenyl-1-butyne was then prepd. from  $EtI$  and  $PhC\equiv CNa$ , b.p. 80°,  $n_D^{20}$

over

1.5489,  $d_4^{20}$  0.9231. To establish the identity of the 2 hydrocarbons both were oxidized by identical treatment with  $\text{KMnO}_4$  to yield  $\text{H}_2\text{O}$ . The only other hydrocarbons  $\text{C}_{10}\text{H}_{10}$  capable of yielding  $\text{H}_2\text{O}$  on such oxidation are 1-phenyl-1,2-butadiene and 1-phenyl-1,3-butadiene, both of which have phys. consts. entirely different from those of the hydrocarbons in question. However, it is highly probable that the polymers formed during the isomerization were those of 1-phenyl-1,3-butadiene. The proposed reaction scheme is:



Polymers

G. M. Kondratoff

CA

R

Kinetics and mechanism of reaction of the catalytic by dehydrogenation II. Kinetics of disproportionation of hydrogen in cyclohexene on a platinum catalyst. N. A. Shcheglova and M. Ya. Kagan. *Zhur. Fiz. Khim.* 23, 1083-84 (1949).—It was assumed by Kagan and Flid (C.A. 40, 6059) that conversion of cyclohexene (I) into benzene and cyclohexane (II) (1:2 mol.) was an essential part of the reaction  $I \rightarrow \text{benzene}$ . This conversion is now studied. Mixts. of I with x mol.  $N_2$  were passed over 1 g. of pumice stone contg. 4% Pt. A new portion of the catalyst was used for every expt., because the activity of the catalyst was lowered by use. A catalyst re-generated by  $N_2 + 2\% O_2$  at 100–200° and then II was more active than the original sample. When x varied between 0 and 20, the concn. of I between 0.0018 and 0.0050 mol./l., the duration of the expt. between 1 hr. and 17 hrs., and the no. (n) of g.-mols. of I traversing the catalyst per sec. between  $10^{-4}$  and  $10^{-5}$ , the product  $an$  remained const.; a is the degree of conversion detd. by analysis of the reaction product for I. With fresh catalyst,  $an$  was  $0.36 \times 10^{-4}$ ,  $0.74 \times 10^{-4}$ , and  $1.47 \times 10^{-4}$  at 105°, 115°, and 124°, resp., giving 22,000 cal. for the energy of activation. The const. k of the zero-order equation  $dc/dt = k$  is  $an \cdot \phi$ ,  $\phi$  = the vol. of voids in the catalyst. The pre-exponential factor in the Arrhenius equation was  $1.0 \times 10^8$ . Addn. of benzene and/or II to the  $N_2$ -I mixts. did not affect  $an$ ; this showed that I is adsorbed preferentially to benzene and II. The surface of the catalyst is permanently covered with I mols. causing the reaction to be of zero order. J. J. Bikerman

Sub Hydrogenation Catalysts, Kagan Phys. Chem. Inst. Moscow

CA

2

Kinetics and mechanism of the reactions of the catalytic hydro-dehydrogenation. III. Dehydrogenation of cyclohexane on a platinum catalyst. M. Ya. Kagan and N. A. Shehiglova. *Zhur. Fiz. Khim.* 23, 1283-14 (1949); cf. *C.A.* 44, 9106. -Cyclohexane (I) or its mixts. with benzene, II, or N were passed through plugs of 3 g. of the catalysts (4% Pt on pumice) used for conversion of cyclohexene (II), and the vol. of H liberated and the ratio I:benzene in the condensate were detd. The efficiency of the catalysts did not change at 200°, but at 202° it fell after each expt. and the catalyst had to be regenerated by N, I, II, O at 350° and then by H at 300°. If  $\tau$  sec. is the time spent by the gas mixt. in the catalyst plug, and  $\alpha$  the fraction of I converted into benzene, the reaction const.  $k = (1/\tau) \{ \ln(1 - \alpha) + \ln(1 - \beta) \}$ , the const.  $\lambda$  and  $\beta$  appear because 4 mols. form from 1 mol. I. For the most active catalyst,  $k$  at 202° was 0.3 sec.<sup>-1</sup>;  $k$  was not altered by dilg. I with other gases. The rate of dehydrogenation is 1/1500 that of disproportionation of II; hence, if II is an intermediate in the reaction I  $\rightarrow$  benzene, it is consumed in the disproportionation rather than in the dehydrogenation reaction. This was confirmed by expts. with mixts. of I and II in which II was completely consumed at  $\tau$  giving only low conversion of I, and the vol. of H liberated corresponded to the I converted. Presumably, the reaction proceeds as follows:  $3I \rightarrow 3II \rightarrow 2I + \text{benzene}$ . I. J. R.

SHCHEGLOVA, N. A.

USSR/Chemistry - Physical chemistry

Card 1/1 : Pub. 147 - 13/21

Authors : Pshezhetskiy, S. Ya.; Lyubarskiy, G. D.; Shcheglova, N. A.; and Merilyaynen, S. K.

Title : Relation between the kinetics of catalytic dehydrogenation of hydrocarbons and the structure of the latter. Part 3.- Comparison of kinetics data for n-butane and n-butylene; probable mechanism of dehydrogenation reaction

Periodical : Zhur. fiz. khim. 8, 1458-1464, Aug 1954

Abstract : The difference between the reaction of n-butane and n-butylene dehydrogenation kinetics and the reaction of these hydrocarbons with the catalyst was established by comparing kinetics data. The presence of a double C=C bond in the butylene molecule was considered to be the basic cause for a more intensive reaction of this hydrocarbon in comparison with that of n-butane. The formation of intermediate surface compounds of the adsorbed radical type and consequent separation of the second H-atom was thought to be the most probable reaction mechanism. Three references: 2-USSR and 1-USA (1948-1954). Tables; graphs.

Institution : The L. Ya. Karpov Physico-Chemical Institute, Moscow

Submitted : November 13, 1953

SHCHEGLOVA, N. A.

USSR/ Chemistry      Physical chemistry

Card : 1/1      Pub. 147 - 15/25

Authors : Shcheglova, N. A., and Pshezhetskiy, S. Ya.

Title : Kinetics of dehydrogenation of n-butylene

Periodical : Zhur. fiz. khim. 28/7, 1280 - 1285, July 1954

Abstract : The kinetics of butylene dehydrogenation reaction over an aluminum-chromate catalyst, was investigated at 450 - 500° and partial butylene pressures of 0.05 - 0.3 atm. Equation, describing this dehydrogenation reaction kinetics, is given. The thermal effect of this reaction, as result of conjugation of double bonds, is ~ 26000 cal./mol., i.e., somewhat lower than the thermal effect of butane dehydrogenation reaction. The effect of butadiene additions on the rate of butylene hydrogenation, is explained. Two USSR references (1946 and 1954). Tables; graphs.

Institution : The L. Ya. Karpov Physico-Chemical Institute, Moscow

Submitted : November 13, 1953

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Chem

4529. THE RELATION OF HYDROCARBON STRUCTURE AND THE KINETICS OF CATALYTIC DEHYDROGENATION. Shehzadskii, A. Ya., Izdubskii, O. D., Shehuglova, N. A., and Merilainen, S. K. (Moscow: Acad. Sci. U.S.S.R., 1955, Problems of Chemical Kinetics, Catalysis and Reactivity (Voprosy Khimicheskoi Kinetiki, Kataliza i Reaktivnosti), 535-547; abstr. in Chem. Abstr., 1956, vol. 50, 10387). It was found that the kinetics of the dehydrogenation of n-butane are represented by a different equation than those of n-butylene, and that considerable differences exist in the apparent activation energy values for the two compounds. These variations point to a considerable difference in the interaction with the catalyst, and the much more energetic action of n-butylene is apparently due to its double bond. The available data indicate that the probable mechanism of this reaction includes the formation of intermediate surface compounds, similar to free radicals, followed by the splitting off of the second hydrogen. Kinetic equations derived from such a scheme, and an effective uniformity of the catalyst surface, are in satisfactory agreement with experimental data.

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AM  
LH

SOV/20-120-6-21/59

AUTHORS: Shigorin, D. M., Shcheglova, N. A.,  
Nurmukhametov, R. N., Dokunikhin, N. S.

TITLE: The Effects of the Position and of the Nature of the Sub-  
stituent on the Fluorescence Spectra of Anthraquinone Deriv-  
atives in Frozen Solutions (Vliyaniye polozheniya i prirody  
zamestitelya na spektry fluorestsentsii proizvodnykh antra-  
khinona v zamorozhennykh rastvorakh)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 6.  
pp 1242 - 1245 (USSR)

ABSTRACT: First a survey of previous papers and of the present state  
of the problem under review is given. This is a study of the  
fluorescence of much diluted solutions ( $C = 10^{-4}$  to  $10^{-5}$  mol/l)  
of anthraquinone and of its derivatives at 77°K. n-heptane,  
n-hexane and n-octane served as a solvent. The spectra were  
excited by a group of mercury lines. A fine structure of the  
oscillations was found in the fluorescence spectra of anthra-  
quinone, of its  $\beta$ -derivatives ( $\beta$ -Cl-anthraquinone,  $\beta$ -methyl  
anthraquinone,  $\beta$ -amino anthraquinone) and of anthrone. The  
spectrum exhibited by anthraquinone in different solvents remains

Card 1/3



The Effects of the Position and of the Nature of the Substituent on the Fluorescence Spectra of Anthraquinone Derivatives in Frozen Solutions SOV/20-120-6-21/59

the same. It has 24 - 28 lines and shows a complicated structure. The spectrum of anthraquinone apparently is divided into several parts by the most intensive electron oscillation bands. The shape of the spectrum is repeated in each of these parts. These principal bands are divided into several components. When hexane is used instead of octane the number of components and the nature of the splitting-up is changed, the position of the bands and the distances between them are maintained. The principal form of the spectrum is maintained in the spectra of all compounds with a fine structure. It exhibits a three times repeated picture in the ranges between the intensive bands. The spectra of the derivatives of anthraquinone are markedly shifted towards red as compared to the spectra reviewed above. They appear in the form of rather washed-out bands. The spectrum of  $\beta$ -oxy anthraquinone also consists of washed-out bands and is shifted towards red. The evidence advanced substantiates the hypotheses concerning the influence of the position of the substituent and of its nature upon the fluorescence spectra of the molecules under consideration.

Card 2/3

The Effects of the Position and of the Nature of the Substituent on the Fluorescence Spectra of Anthraquinone Derivatives in Frozen Solutions SOV/20-120-6-21, 59

There are 2 figures, 1 table, and 7 references, which are Soviet.

PRESENTED: March 27, 1958, by A. N. Terenin, Member, Academy of Sciences, USSR

SUBMITTED: March 21, 1958

1. Anthracene solutions--Fluorescence
2. Anthracenes--Spectra
3. Anthracenes--Structural analysis

Card 3/3

500. He. 2. 1. 1. 1.

CHIRKIN, D. N.; SENEGALIA, I. A.; and MURMURAMETOV, R. N.

"Fluorescence Spectra of Anthraquinone and its Derivatives in Frozen  
Solutions."

report presented at the 4th International Meeting of Molecular Spectroscopy, Bologna,  
Italy, 7-12 Sept 1959.

Institute of Physical Chemistry, the University, Moscow.

24(7)

SOV/48-23-1-8/36

AUTHORS:

Shigorin, D. M., ~~Shcheglova, N. A.~~, Murzukhametov, R. E.

TITLE:

Influence of the Position and Nature of the Substituent Upon the Fluorescence Spectrum of Anthraquinone Derivatives in Frozen Solutions (Vliyaniye polozheniya i prirody zameshitelya na spektry fluoretsentsii proizvodnykh antrakhinona v zamorozhennykh rastvorakh)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 1, pp 37 - 39 (USSR)

ABSTRACT:

In the present paper the authors studied the fluorescence spectra of strongly dilute solutions of anthraquinone and its derivatives at 77°K. n-hexane, n-heptane and n-octane were used as solvents. The spectrum investigations were carried out according to the method described by Shpol'skiy (Ref 1). The oscillation microstructures of the fluorescence spectra of anthraquinone and its  $\beta$ -derivatives:  $\beta$ -chloro,  $\beta$ -methyl and  $\beta$ -amino anthraquinone were considered. The anthraquinone spectrum covers a few intense principal bands which reappear in each spectrum. Each band is split into several components. On the transition from hexane to octane, the number of components and way of distribution vary,

Card 1/3

Influence of the Position and Nature of the Substituent SRV 48-23-1-3,36  
Upon the Fluorescence Spectrum of Anthraquinone Derivatives in Proton  
Solutions

whereas the position of the bands is maintained. It was observed that all spectra tend toward equalizing the intensity of the components of the central bands during the shift toward the long-wave range. The components of the intense bands correspond to the completely symmetrical C=O oscillation in the ground state of electrons. The nature of distribution of the electron-vibration level is connected with the orientation of fluorescent molecules in the crystal lattice of the solvent and has hitherto been investigated insufficiently. The  $\alpha$ -derivatives of anthraquinone yield different spectra. Within the red range they are shifted to a large extent and their bands are indistinct. The authors investigated the spectra of  $\alpha$ -oxy anthraquinone,  $\alpha$ -chloro anthraquinone, 1,5-dioxy anthraquinone, 1,8-dioxy anthraquinone, 1,4-dioxy anthraquinone and  $\beta$ -oxy anthraquinone. The latter  $\beta$ -derivative belongs also to this group because of its hydrogen bond that is produced in weak concentrations. This hydrogen bond renders the spectra of the  $\alpha$ -derivatives of anthra-

Carl 2,3

Influence of the Position and Nature of the Substituent      SOV/45-23-1- , 36  
Upon the Fluorescence Spectrum of Anthraquinone Derivatives in Frozen  
Solutions

quinone indistinct. It always occurs in such cases where an interaction between the substituents OH or NH<sub>2</sub> and the C=O group is possible. The data obtained on the fluorescence of frozen solutions of anthraquinone and its derivatives are parallel to those mentioned by Karyakin and Terenin (Ref 3) on the investigations of fluorescence extinction by oxygen as well as to the changes in the electronic and infrared absorption spectra of anthraquinone derivatives. There are 4 figures, 1 table and 4 Soviet references.

Card 3/3

SHIGORIN, D.N.; SHCHEGLOVA, N.A.; DOKUNIKHIN, N.S.

Luminescence spectra of halide derivatives of anthraquinone in  
frozen solvents. Izv.AN SSSR 24 no.6:778-781 Je '60.

(MIRA 13:7)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova.  
(Anthraquinone--Spectra).

81416

S/020/60/132/06/41/068  
B004/B005

54/30  
AUTHORS:

Shigorin, D. N., Shcheglova, N. A., Dokunikhin, N. S.,  
Puchkov, V. A.

TITLE:

The Nature of the Hydrogen Bond and Its Influence on the  
Electron Spectrum of Molecules

PERIODICAL:

Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6,  
pp. 1372 - 1375

TEXT: In the introduction, the authors discuss data published on the influence of the hydrogen bond on the vibration spectra of molecules, mentioning papers by N. D. Sokolov (Ref. 1) and A. N. Frumkin (Ref. 5). Then, they investigate the coplanar system of  $\alpha$ -hydroxy anthraquinone in which a  $\pi$ -electron interaction takes place, and the C=O group is decisive for the electron excitation. The authors assume the formation of a quasiaromatic ring by means of the H-bond (Fig. 1). The investigation of the electron vibration spectra of this compound and some of its derivatives yielded the valence vibration of the C=O group in the basic state. On absorption of a light quantum, a change in the distribution of

Card 1/3



81416

S/020/60/132/06/41/063  
B004/B005

The Nature of the Hydrogen Bond and Its  
Influence on the Electron Spectrum of Molecules

the electron density, of the interatomic distances, etc. occurs which may lead to a solidification of the ring containing the H-bond (O-H....O=C). In the excited state, the action of the p-orbit of the H-atom becomes more probable. The rate of transformation of electron energy into vibration energy, and the probability of a redistribution of vibration energy on sublevels increase in this connection. The life of each excited vibration is reduced, and the luminescence spectra of the compounds containing the H-bond have a blurred fine structure. This is confirmed by the luminescence spectra of 1-hydroxy-, 1,4-, and 1-5-hydroxy anthraquinone which in fact show no fine structure (Fig. 2, insert after p. 1341). The luminescence spectra of  $\alpha$ -methyl-,  $\alpha$ -methoxy-, and  $\alpha$ -phenyl anthraquinone (Fig. 2) having no H-bond show a fine structure. The data of the spectra are compiled in Table 1. The difference between absorption- and emission spectra is discussed; it is explained by the circumstance that the structure of the molecule and its electronic state change with the absorption of the energy quantum  $h\nu_{\text{abs}}$ ; this change is only eliminated after emission of the light quantum  $h\nu_{\text{emiss}}$ . In substances with H-bond, the excited electron level formed after absorption of  $h\nu_{\text{abs}}$  is not

Card 2/3

81116

The Nature of the Hydrogen Bond and Its Influence S/020/60/132/06/41/068  
on the Electron Spectrum of Molecules B004/B005

identical with the electron level at which emission begins (Fig. 3). Coplanarity is a condition for the occurrence of such intramolecular bonds. The increased interaction of a bridge with H-bond on the basis of 9-(p-hydroxy-)phenyl acridine investigated by A. N. Terenin and V. V. Shabliya (Ref. 13), and the important role of these phenomena in migration processes of the energy in high-molecular compounds (polyamides, protein, etc.) are pointed out. Levshin's law of mirror symmetry is mentioned. There are 2 figures, 1 table, and 15 references: 14 Soviet, 1 British, and 1 US.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova  
(Physical-chemical Institute imeni L. Ya. Karpov)

PRESENTED: February 11, 1960, by A. N. Terenin, Academician

SUBMITTED: February 14, 1960

Card 3/3

SHIGORIN, D.N.; SHCHEGLOVA, N.A.; DOKUNIKHIN, N.S.

Luminescence spectra of halo derivatives of anthraquinone  
in frozen solutions. Dokl. AN SSSR 133 no.2:420-423  
J1 '60. (MIRA 13:7)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova. Pred-  
stavleno akademikom A.N. Terguinym.  
(Anthraquinone--Spectra)

23857  
S/020/61/137/006/019/020  
E-01/B201

44,3500(1137,1138,11395)

AUTHORS: Shigorin, D. N., Shcheglova, N. A., and Dokunikhin, N. S.

TITLE: Expressions of the autonomy of electron groupings in luminescence spectra of complicated molecules

PERIODICAL: Doklady Akademii nauk SSSR. v. 137, no. 6, 1961, 1416-1419

TEXT: A quantum-mechanical study of the electron levels of simple molecules with multiple bonds has yielded the following results: 1) excitation is in relation with the participation of  $\pi$ - and p-electrons of the chromogenic group ( $>C=C<$ ,  $C=O$ , etc.), on whose energetic state the substituents (auxochromes) bear an influence. The authors of the present paper wanted to clarify the problem as to whether the autonomy of electron groupings (chromophores) appears both with absorption and with emission (luminescence). The luminescence spectra of complicated molecules were examined, such as arthraquinone (II), phenanthrene quinone (III), and anthrone (IV), as well as thioindigo and its derivatives. The investigation was conducted at concentrations of  $10^{-4}$ - $10^{-5}$  mole/l in n-paraffins.  $T = 77^{\circ}K$ . Results are presented in Fig. 1. For II, its  $\alpha$ - and  $\beta$ -monohalogen-,  $\alpha$ -methyl-,  $\alpha$ -phenyl-

Card 1/6

23857

S/020/61/137/006/019/020  
B101/B201

Expressions of the ...

and  $\alpha$ -methoxy derivatives, as well as for III and IV the following was found: the distance between the intensive bands and the weak bands amounts to  $1664 \text{ cm}^{-1}$  (for III and IV  $1686 \text{ cm}^{-1}$ ) corresponding to the frequency of stretching vibrations of the chromophore C=O group. For mesobenzanthrone, its mono- and dibromo derivative, and for thioindigo the fine structure is, in accordance with E. V. Shpol'skiy (UFN, 69, 51 (1959); 71, 215 (1960)) characterized by the frequencies of the symmetric vibrations of condensed aromatic rings, and not by the frequencies of the stretching vibrations of the C=O group, which, consequently, does not act as chromophore in these compounds. It is inferred from the foregoing that an unequivocal autonomy of electron groups (chromophores) appears both in the absorption and luminescence spectrum of complicated molecules. These effects are best observed at low temperatures, since at higher temperatures the spectrum becomes unclear due to transformation of electron energy into vibrational energy of the rings. For molecules with two chromophore groups at low temperatures it has been noted that depending on the conditions of excitation ( $\lambda$ , temperature, medium) either electron state, but also both spectra, may be observed. A further fact that confirms the conservation and the strengthening of hydrogen bonds in  $\alpha$ -hydroxy derivatives of anthraquinone in

Card 2/6

23857

S/220/61/137/006/012/020  
B101/B201

Expressions of the ...

the excited state is the luminescence spectrum of 1, 4, 5, 8-tetrahydroxy anthraquinone. Each C=O group participates in two H bonds, so that four additional quasiaromatic rings, a quasi-corona



(X) forms.

The spectrum of this compound displays frequencies similar to those of the corona as well as frequencies that are characteristic of anthracene. A chromophore system is formed which comprises rings with H bonds, and in which the frequencies of the stretching vibrations of the C=O groups are no more determinative. The spectra of  $\beta$ -substituted anthraquinone (Br, I, R-C=O) allow the conclusion to be drawn that (under adequate conditions of excitation) the intensity of the Ramon band of the chromophore (C=O) and the intensity, corresponding to the  $Q'' - Q'$  transition in the luminescence spectrum, change. To conclude: local, "multicentered" electron orbits may arise with the participation of  $\pi$  electrons in complicated molecules. Academician

Card 3/6

23857

S/020/61/137/006/012/020  
E101/B20:

Expressions of the ...

A. N. Terenin is thanked for discussions. There are 1 figure and 11 references: 10 Soviet-bloc and 1 non-Soviet-bloc. The reference to English-language publication reads as follows: E. Y. Ewen, E. Brocklehurst, J. Chem. Soc., 1954, 3875.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute im. L. Ya. Karpov)

PRESENTED: November 9, 1960, by A. N. Terenin, Academician

SUBMITTED: November 2, 1960

Fig. 1. Luminescence spectra of anthraquinone derivatives in heptane at 77°K.

Legend: a)  $\lambda_{Hg} = 313 \text{ m}\mu$ ; b)  $\lambda_{Hg} = 365 \text{ m}\mu$ ; 1)  $\alpha$ -chloroanthraquinone; 2) 1, 8-dihydroxy anthraquinone; 3) 1, 5-dihydroxy anthraquinone; 4) 1, 4, 5, 6-tetrahydroxy anthraquinone (A = emission; B = absorption); 5) anthrone (in hexane), the shortwave part of the spectrum with  $\lambda_{max} = 4043 \text{ \AA}$  is not shown;

Card 4/6

SHKREGLIOVA, N.A., SHIGGIN, L.M.; LONGBLANK, L.B.

Luminescence of monochalc derivatives of anthraquinone in frozen solutions. Zhur. fiz. Khim. 36 no.9:1932-1946 S '62.

(MIRA 17:6)

1. Fiziko-khimicheskiy Institut imeni I.Ya. Karpova, Moscow.



45146

S/076/63/037/002/010/018  
B101/B186

AUTHORS:

Shcheglova, N. A., Shigorin, D. N., Ryabchikova, T. S.,  
Tokunikhin, N. S., Moiseyeva, Z. Z. (Moscow)

TITLE:

Study of the luminescence spectra of some anthraquinone  
carboxylic acid derivatives at low temperatures

PERIODICAL:

Zhurnal fizicheskoy khimii, v. 37, no. 2, 1963, 371-377

TEXT: The luminescence spectra of the following compounds were studied in  
n-hydrocarbon solutions or in the powder: anthraquinone- $\alpha$ -carboxylic acid  
and its methyl ester, anthraquinone- $\beta$ -carboxylic acid and its methyl ester,  
anthraquinone-1,4-dicarboxylic acid and its dimethyl and diethyl esters,  
7-chloro-anthraquinone-2-carboxylic acid and its methyl ester, 7-fluoro-  
anthraquinone-2-carboxylic acid and its methyl ester, 6-fluoro-  
anthraquinone-2-carboxylic acid and its methyl ester, and 6-chloro-  
anthraquinone-2-carboxylic acid. Results: The luminescence spectra of  
the esters and their halogen derivatives at 77°K have a fine vibration  
structure. The carbonyl of the anthraquinone ring had the highest  
frequency. The multiplicity of the spectra proved to be highly dependent  
Card 1/2

Study of the luminescence ...

S/076/63/037/002/010/018  
B101/B166

on the length of the hydrocarbon chain of the solvent (n-hexane, n-heptane, n-octane, n-nonane) which fact can be used in the analysis of these compounds. Each substituent being an auxochrome (F, Cl, COOH, COOCH<sub>3</sub>) has a specific effect on the spectrum, manifest in line shifts and intensity changes of the major peaks. The luminescence spectra of the powdered halogen derivatives of the acids as well as the esters had no fine structure at 77°K, but a system of narrow bands shifted toward the longwave region. The interdistance between the centers of these bands equals the carbonyl frequency of anthraquinone. In powdered 1,4-anthraquinone dicarboxylic acid, reversible self-extinction of the luminescence was observed. This effect disappeared in dioxane solution. The self-extinction is explained by intermolecular interaction (and photo transfer) of one carboxyl proton with the p electrons of the oxygen in the anthraquinone carbonyl group, which effect electron excitation by  $p \rightarrow \pi^*$  transition. This assumption was confirmed by measuring the IR frequency of the carbonyl group. There are 2 figures and 3 tables.

ASSOCIATION:

Fiziko-khimicheskiy institut im. L. Ya. Karpova  
(Physicochemical Institute imeni L. Ya. Karpov)  
November 16, 1961

SUBMITTED:  
Card 2/2

SHIGORIN, D.N.; SHCHEGLOVA, N.A.; PISKUNOV, A.K.; OZEROVA, G.A.;  
POKUNIKHIN, N.S.

$\pi$ -bonds in excited electronic states of molecules with  
 $\pi$ -electrons. Dokl. AN SSSR 150 no.4:862-865 Je '63.  
(MIRA 16s6)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.

Predstavleno akademikom A.N. Tereninym.

(Molecular spectra)

(Hydrogen bonding)

L 32069-66 SWT(m)/SWP(j) RM

ACC NR: AR6016172

SOURCE CODE: UR/0058/65/000/011/D012/D012

AUTHOR: Snigorin, D. N.; Shcheglova, N. A.; Piskunov, A. K.; Ozerova, G. A. 44

TITLE: Hydrogen bonds in excited electronic states of molecules with  $\pi$ -electrons B

SOURCE: Ref. zh. Fizika, Abs. 11D83

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 302-312

TOPIC TAGS: hydrogen bonding, excited state, absorption spectrum, luminescence spectrum, nonmetallic organic derivative, conjugate bond system, ground state, luminescence quenching

ABSTRACT: On the basis of data on the absorption and luminescence spectra of  $\alpha$ -oxy- and methoxy-derivatives of anthraquinone it is shown that the energy of production of the hydrogen bond in the excited state increases compared with the ground state by a factor of almost 2 and reaches 25 kcal. The increase in the energy of the H bond in the case of excitation with conjugated bonds is connected with the increase of the energy of the  $\pi$ -electron interaction in the quasiaromatic cycle, formed with participation of the p-orbit of the hydrogen atom of the X-H group. The question of the role of the H bond in processes of deactivation of the triplet state and luminescence quenching is considered. [Translation of abstract]

SUB CODE: 20, 07

Card 1/1 90

L 20106-65 EWT(m)/EWP(j) Pc-l BSD/SSD(c)/AFWL/ASD(a)-5/AS(mp)-2/AFGC(b)/ESD(gs)  
 ACCESSION NR: AP4044439 RM S/0076/64/038/008/1963/1972

AUTHOR: Shcheglova, N. A. (Moscow); Shigorin, D. N. (Moscow); Dokunikhin, N. S. (Moscow) B

TITLE: Luminescence and absorption spectra of alpha and beta hydroxyanthraquinones

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 8, 1964, 1963-1972

TOPIC TAGS: hydroxyanthraquinone, absorption spectrum, luminescence spectrum, hydrogen bond, molecular excitation

ABSTRACT: The luminescence and absorption spectra of  $\alpha$ - and  $\beta$ -hydroxy, dihydroxy and tetrahydroxyanthraquinones and some of their methoxy derivatives in normal hydrocarbons were investigated in order to study the spectra of compounds, containing intramolecular hydrogen bonds and their manifestation in the excited electronic state. It was found that the shape and position of luminescence and absorption bands of a number of hydroxyanthraquinones and some of their methoxy substituted derivatives in n-hydrocarbons at 77K depend on the number and position of the hydroxy groups in the anthroquinone ring. The luminescence spectra

Card 1/3

L 20106-65

ACCESSION NR: AP4044439

of  $\alpha$ -hydroxy, 1,5-dihydroxy,  $\beta$ -hydroxy and 2,6-dihydroxyanthraquinones are washed out and shifted toward the red. The washed-out nature of spectra is closely related to the shortened lifetime of the excited state of hydroxyanthraquinones as compared with anthraquinone. Both the luminescence and the absorption spectra of 1,4-dihydroxy, 1,2,5,8- and 1,4,5,8-tetrahydroxyanthraquinones have a vibrational fine structure. For these substances the established frequencies of purely electronic transitions are  $19115\text{ cm}^{-1}$ ,  $18774\text{ cm}^{-1}$  and  $17667\text{ cm}^{-1}$  respectively. The H bond has a significant effect on the nature of the excited state of the molecule. From the comparison of the spectra of  $\alpha$ -hydroxy and  $\alpha$ -methoxyanthraquinones it is apparent that the formation of H bond leads to the long wavelength shift of absorption and luminescence spectra and also to the increase of the intensity of the long wavelength absorption bands. The energy of the H bond has been determined in the excited state for  $\alpha$ -hydroxy derivatives of anthraquinones. The energy of the H bond greatly increases during the transition of the molecule into the excited electronic state, which is explained by the increase of the energy of  $\pi$ -electron interaction during the formation of quasiaromatic ring with H bond. Orig. art. has: 6 tables and 4 figures.

Card 2/3

L 20106-65

ACCESSION NR: AP4044439

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Institute of  
Physical Chemistry)

SUBMITTED: 21Aug63

ENCL: 00

SUB CODE: GC, *OP*

NO REF SOV: 012

OTHER: 008

Card 3/3

L 16195-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RPL WW/JFW/RM  
ACCESSION NR: AP4046084 S/0076/64/038/009/2279/2283

AUTHOR: Shigorin, D. N.; Piskunov, A. K.; Ozerova, G. A.; Shcheglova, N. A.  
Vereyn, N. V.

TITLE: The role of H-bonds in processes of deactivating activated states of molecules leading to the formation of radicals.

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 9, 1964, 2279-2283

TOPIC TAGS: H bond, activated molecule, deactivation, radical formation, radical formation mechanism, intermolecular radical formation, EPR spectrum, luminescence

ABSTRACT: The mechanism of radical formation and the role of H-bonds therein was investigated in processes embodying intermolecular radical formation-- when the activated molecules form complexes among themselves or with molecules of the media. The EPR spectra and the luminescence were examined of a series of systems: N-ethylacridone, anthraquinone and some of its derivatives, triphenylamine, and carbazole, in different media in a molar ratio of 1:1 with  $c=10^{-3}$  mol/l.

Card 1/4



L 16195-65

ACCESSION NR: AP4046084

Photo-illuminated powders under vacuum at 77K gave no EPR signal. In samples crystallized from ethanol and in luminophor systems X: ...H-O-R, a singlet appeared whose intensity increased proportionally to the intensity of illumination. Photoactivation of systems with the luminescent chromophore  $>C=O$  gave a singlet and EPR spectra corresponding to radicals of the solvent. Photoactivation of systems containing the chromophoric atom  $>N$ , gave a weak singlet and intense spectra of the solvent radical (radical yield  $\sim I^n$ ,  $n \approx 2$ ). If the  $>N$  atom which formed a H-bond with the O-H groups did not affect the electron excitation, the radical yield was small. In solvents (hydrocarbons) which did not contain the X-H group capable of forming H-bonds, the luminophores did not give noticeable EPR signals. It was concluded the H-bond played an important role in the process of forming radicals from a matrix as a result of deactivating activated states of a molecule. This is a two-stage process (see enclosed figure). Formation of the radical complex takes place in the first stage as a result of the transition of the H atom from the molecule of the matrix to the luminophore molecule due to absorption of a quantum of light in  $S \rightarrow S^* \rightsquigarrow T$  transitions. The radical complex is decomposed in the second stage forming radicals of the matrix due to absorption

Card 2/4

L 16195-65

ACCESSION NR: AP4046084

of a quantum of light in the  $S_R \leftrightarrow S_R$  transition. A network of matrix molecules connected by H-bonds is necessary for this. The yield of radicals in the overall process is proportional to the light intensity  $I^n$ , where  $n \approx 2$ . The triplet activated state does not take part in the process of formation of radicals from the matrix. Orig. art. has: 1 table and 4 figures.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physical Chemical Institute)

SUBMITTED: 11Oct63

ENCL: 01

SUB CODE: GC

NO REF SOV: 005

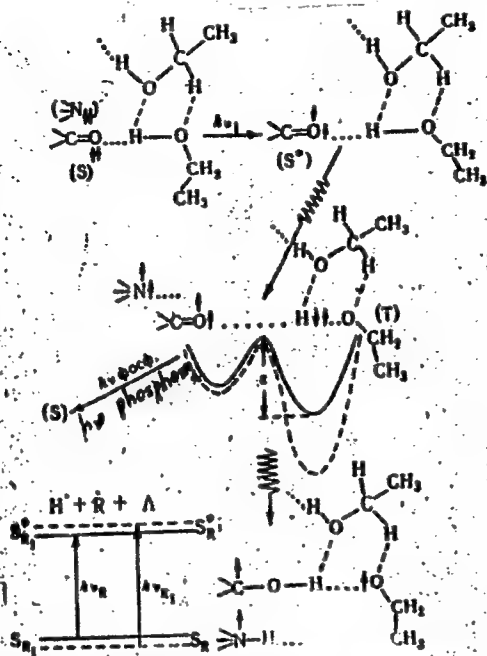
OTHER: 000

Card 3/4

L 16195-65

ACCESSION NR: AP4046084

ENCLOSURE: 01



Card 4/4

SHIGORIN, D.N.; FICKENW, A.K.; ... ..; VEREYN, N.V.

Re. of the H-bonding ... .. by ... .. are formed  
as a result of the destruction of the excited vibrational states of  
molecules. Dokl. Ak. Nauk SSSR ... .. S. 100.

(NINA 17:10)

1. Fiziko-khimiya ... .. Predstavleno aka-  
denikom S.S. Medvedevym.

I 62934-65 EWT(1)/EWT(m)/EWP(j) IJP(c) RM

ACCESSION NR: AR5012283

UR/0058/65/000/003/D074/D074

SOURCE: Ref. zh. Fizika, Abs. 3D597

AUTHOR: Shcheglova, N. A.; Shigorin, D. I.

TITLE: Quasi-line luminescence spectra of aromatic diketones at 77°K

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 648-661

TOPIC TAGS: aromatic ketone, electron structure, electron energy level, line spectrum, luminescence spectrum, electron transition

TRANSLATION: Quasi-line luminescence spectra of aromatic diketones are studied. A vibrational analysis of the spectra is given; the nature of the electron transitions is determined and the positions of the electron levels are found. The effect of substituents on the emission and absorption spectra is examined.

SUB CODE: NP, GC

ENCL: 00

Card 1/1

SECRET

1,4-naphtho-  
quinone, 28  
(NINE 18-12)

1. 1,4-naphtho-  
quinone, 28  
Aug. 2, 1968

ACC NR: AP6010545

N

SOURCE CODE: UR/0069/65/027/006/0806/0809

AUTHOR: Vedernikova, N. F.; Sokolov, S. I.; Fel'dman, R. I.; Shehegolevskaya, N. A.

ORG: Moscow Institute of Chemical Machinery (Moskovskiy institut khimicheskogo mashinostroyeniya); Moscow Oblast Polytechnic Institute im. N. K. Krupskaya (Moskovskiy oblastnoy pedagogicheskiy institut)

TITLE: Interaction of polymers with plasticizers. Part 7. Thermo-optical characteristics of the effect of plasticizers on polymethyl methacrylate

SOURCE: Kolloidnyy zhurnal, v. 27, no. 6, 1965, 806-909

TOPIC TAGS: plasticizer, polymethylmethacrylate, double refraction, phosphate ester

ABSTRACT: In order to clarify the specificity of the optical effect of plasticization, the simultaneous influence of plasticizers and temperature on the birefringence of binary systems composed of a polymer and a low-molecular plasticizer was investigated. Thermo-optical measurements were made in the two systems polymethyl methacrylate (PMMA)-dibutyl phosphate (DBP) and PMMA-tricresyl phosphate (TCP). The curve representing the temperature dependence of the optical birefringence coefficient  $C_p$  of polymethyl methacrylate (see Fig. 1 and 2) is shifted by the presence of the plasticizer in the direction of the temperature axis toward lower values, in conformity with the mole fraction rule, and in the direction of the  $C_p$  axis toward more

UDC: 541.64:535.551

Card 1/3

L 34417-66

ACC NR: AP6010545

0

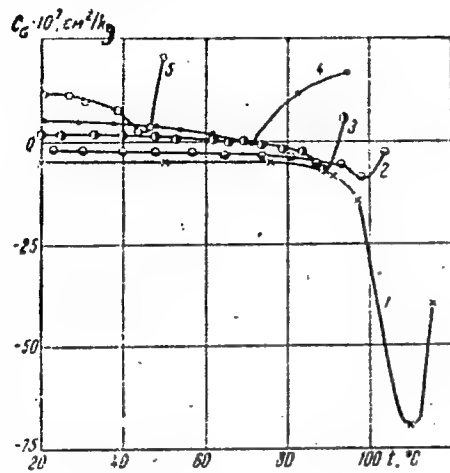


Fig. 1. Temperature dependence of  $C_g$  of PMMA plasticized with TCP: 1 - PMMA; 2-5 - PMMA + TCP,  $N_2$  equal to 0.014, 0.030, 0.062 and 0.113 respectively.

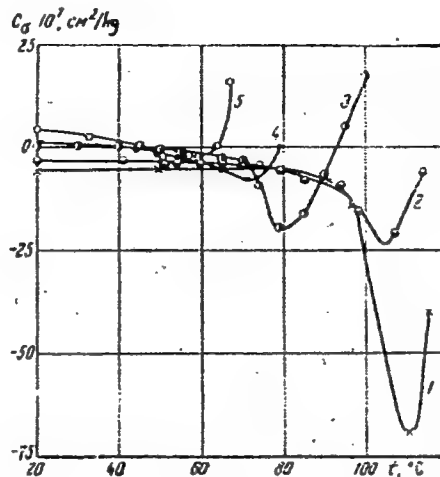


Fig. 2. Temperature dependence of  $C_g$  of PMMA plasticized with DBP: 1 - PMMA; 2-5 - PMMA + DBP,  $N_2$  equal to 0.011, 0.038, 0.056 and 0.097 respectively.

Card 2/3



I. 34417-66

A.L.C NR: AP6010545

positive values. The shift along the  $C_p$  axis depends on the composition and structure of the plasticizer molecules. It is concluded that the influence of the plasticizers introduced into PMMA is dual in nature: in some respects, it is related to a change in the state of aggregation of the polymer upon addition of the plasticizer, and is governed by known general rules established by studying the mechanical properties; in other respects, the plasticizer affects the optical properties<sup>12</sup> according to its individual characteristics, which depend on the composition and structure of its molecules. Orig. art. has: 3 figures.

SUB CODE: 07/ SUBM DATE: 26Jun64/ ORIG REF: 004/ OTH REF: 001

Card 3/3

SELEDGILOVA, N.A.; SHIGORIN, D.N.; GORELIK, M.V.

Electronic spectra of aromatic  $\alpha$ -diketones. Zhur. fiz. Khim.  
39 no.4:893-901 Ap '65. (MIRA 19:1)

1. Fiziko-khimicheskiy institut imeni Karpova. Submitted Nov. 11,  
1963.

MELAMED, Ya.P.; SHCHEGLOVA, N.G.

Case of echinococcic hydatid cyst of hip muscles. Zdrav.Kazakh.  
22 no.11:70-71 '62. (MIRA 16:2)

1. Iz khirurgicheskogo otdeleniya zheleznodorozhnoy bol'nitsy  
g. Ural'ska.

(MUSCLES—HYDATIDS)

SHOREGLOVA, N.S.

Production of economically valuable artificial mutations in  
grain crops. Genetika no.2:143-147 Ag '65. (MIRA 18:10)

1. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva  
TSentral'nykh rayonov nechernozemnoy zony, Moskovskaya oblast'.

SHCHEGLOVA, O. A.

SHCHEGLOVA, O. A. "Influence of Mechanical Decrease of Leaf Area  
On Development of the Plant, Accumulation of Dry Weight, and  
Yield of Grain of Spring Wheat and Barley," Trudy po Zashchite  
Rastenii, Series 3, no. 3, 1933, pp. 73-112. 423.92 L54C

SOURCE: SIRA SI 90-73, 15 Dec. 1953

11D

CA

Effect of a decrease in the leaf area on the crop yield and sugar content of sugar beets. O. A. Shebekova and N. N. Vortikova. *Sov. Bot.* 1938, 121-7; *Chimie & industrie* 42, 548.—The chem. and mech. deterioration of sugar-beet leaves results in a decrease both in crop yield and in sucrose content, irrespective of the age of the plant.

A. Papineau-Couture

ASB-SLA DETAILLOGICAL LITERATURE CLASSIFICATION

CHENE - C/M, N  
04 110

The relation of the energy of photosynthesis to the quantity of chlorophyll in leaves of buckwheat. O. A. Shcheglova. *Exptl. Botan.* No. 4, *Trudy Botan. Inst., Acad. Sci. U. S. S. R.*, Ser. IV, 63-9 (in English, 69-70) (1940).

Rate of photosynthesis was detd. by the eudiometric method; the gas analyses were made in the Bonnier and Mangin app.; chlorophyll content was detd. by the Lyubimenko spectro-colorimetric method. Photosynthesis seems to be more intense during the first half of the summer in the parts of the leaves contg. a small amt. of chlorophyll. In the second half of the summer the more green parts of the leaves show a higher photosynthetic activity. The phenomenon noted is assoc. with temp. effects, as shown experimentally.

J. S. Joffe

ASACSLA METALLURGICAL LITERATURE CLASSIFICATION

110

3 The role of environment on the photoperiodic reaction of short-day plants. R. Ya. Brinolaeva and O. A. Shcheglova. *Exptl. Botan.* No. 5, *Trudy Botan. Inst. Acad. Sci. U.S.S.R.*, Ser. IV, 138-49 (in English, 140-50) (1941). Data are presented showing the influence of light and temp. on the photoperiodic reaction of *Perilla pycnantha* L. S. Joffe

ASTM 3.1A METALLURGICAL LITERATURE CLASSIFICATION

ALPHABETIC INDEX	NUMERICAL INDEX
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



ENGINE 4-074, 3-8

110

**Anthocyanin and plant development.** E. Ya. Ermolova and O. A. Silaheglva, *Doklady Akad. Nauk S.S.S.R.* 00, 001-3 (1948).—In expts. with *Perilla arymoides* and *P. nankinensis* it was shown that on transition of the plants from the vegetative to the reproductive phase there occurs a sharp drop of anthocyanin (complete absence in the former plant), which may be interpreted as an index (or a criterion) for judging the developmental phase of the plant. Anthocyanin was detd. colorimetrically. In *P. nankinensis* the drop of anthocyanin reaches 45%.  
G. M. Kovalenko

3. d. Inst. in. V L. Komarov, AS USSR

**APPROVED FOR RELEASE: 03/14/2001**

**CIA-RDP86-00513R001548810004-0"**

IVYSL, F. F.; ONCHENKOVA, T. A.  
MILIDENKOVA, A. P.

Botany - Physiology

Influence of light and temperature upon the distribution and variability of plants at different stages of growth, Trudy Bot. inst. AN SSSR. Eksp. bot., No. 8, 1951.

2. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, March 1952, Uncl.

SHCHEGLOVA, O.A.; BEL'DENKOVA, A.F.

Effect of light and temperature factors on the readjustment and variability of plants in the light of phasic development. Paper 5. Physiological basis of extensive distribution of plants and the formation of new forms. Trudy Bot.inst. Ser.4 no.9:37-62 '53. (MLRA 6:6)

1. Botanicheskiy institut imeni V.L. Komarova akademii nauk SSSR.  
(Phytogeography) (Botany--Variation)

SHCHEGLOVA, O.A.; BEL'DENKOVA, A.F.; LEYSLE, F.F.; KORYAKINA, V.F.

Conditions of phasic development as one of the essential factors of geographic distribution of plants and their morphological changes. Izv. AN SSSR Ser. biol. no. 4:52-74 JI-Ag '53. (MLA 6:7)

1. Botanicheskiy institut Akademii nauk SSSR.  
(Botany--Morphology) (Phytogeography)

SHCHEGLOVA, G.A.; LEYSLE, F.F.

Effect of the duration of daylight on the formation of vegetative  
and reproductive buds in the elm. Dokl. AN SSSR 95 no. 4: 893-895  
Ap '54. (MLRA 7:3)

1. Botanicheskiy institut Akademii nauk SSSR. (Elm) (Budding)

YEREMOLAYEV, K.F.; KULENOV, Kh.Kh.; SHCHEGLOVA, O.A.

Methods of making quality-geometric map of complex metal deposits.  
Trudy Akad. Nauk Kazakh SSR 12:102-109 '62. (MIRA 15:8)  
(Ore deposits--Maps)

SHCHEGLOVA, O. I.

231T15

USSR/Medicine - Cancer Diagnosis

Aug 52

"Clinical Microscopic Examination of the Returns of Gastric Lavage, as a Diagnostic Method for Gastric Cancer," O. I. Shcheglova, Novosibirsk, Hosp Therapeutic Clinic, Novosibirsk Med Inst

"Klin Med" Vol 30, No 8, pp 81-83

Describes a new and simplified method of early diagnosis in suspected cases of gastric malignancy. Recommends use of this method for diagnostic and prevention purposes.

231T15

NOV 1964

11/11/64: "The oil leak... of residues in the die -  
... of the... .." ... ..  
... .. (H... .. of ... ..  
... ..)

Source: Washington Post No. 2, 1964 Moscow



SHCHEGLOVA, O.P.

Some glaciation features in the northern slope of the Alai Range.  
Trudy Sagu no.28:51-56 '51. (MLRA 9:5)  
(Alai Range--Physical geography)

1. SHCHEGLOVA, O. P.
2. USSR (600)
4. Ice
7. Energy of freezing. Izv. vses. geog. obshch. 84 no. 5, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

SHCHEGLOVA, O.P.

Compiling the balance of a glacier. Trudy SAGU no.38:27-34 '53.  
(Glaciers) (MLRA 10:5)

SHCHEGLOVA, O.P.

Rain-fed rivers of Central Asia. Trudy Tashk.geofiz.obser. no.10:  
108-111 '54. (MIRA 8:11)

(Soviet Central Asia--Rivers) (Soviet Central Asia--Rain and  
rainfall)

SHCHELOVA, O.P.

One method of determining the elevation of the snow line.

Trudy SAGU no.50:43-47 '54.

(MIRA 9:7)

(Snow)

SHCHEGLOVA, O.P.

Method for determining the amount of rain water feeding the rivers  
of Central Asia. Izv. AN Uz. SSR no. 2:71-77 '56. (MLRA 10:3)  
(Uzbekistan--Rivers) (Rain and rainfall)

SHCHEGLOVA, A.P.

Variability in the rain water runoff of rivers in Central Asia. Dokl.  
AN Uz.SSR no.11:41-43 '56. (MIRA 13:6)

1. Sredneaziatskiy gosudarstvennyy universitet imeni V.I.Lenina  
Predstavleno chlenom-korrespondentom AN UzSSR N.L.Korzhenevskim.  
(Soviet Central Asia--Runoff)

SHCHEGLOVA, O.P.

Development of theories concerning the glacier supply of rivers  
in Central Asia. Izv.Uzb.fil.geog.ob-va no.3:15-21 '57.  
(MIRA 11:4)

(Soviet Central Asia--Glaciers)

(Soviet Central Asia--Rivers)



SHCHEGLOVA, O.P.

Rain supply of rivers in Central Asia. Trudy Tashk.geofiz.obser.  
no.15:154-163 '57. (MIRA 10:11)  
(Soviet Central Asia--Rivers)

SHCHEGLOVA, O.P.

Floods on Central Asian rivers from rain and thawing snow, Meteor. i  
gidrol. no.1:40-43 Ja '58. (MIRA 11:1)  
(Asia, Central--Floods)

AUTHOR: Shcheglova, O. P. SOV/12-90-6-7/23

TITLE: Two Flood Waters on the River Toguz-Bulak (Dva selya na saye Toguz-Bulak)

PERIODICAL: Izvestiya vsesoyuznogo geograficheskogo obshchestva, 1958, Vol 90, Nr 6, pp 541 - 543 (USSR)

ABSTRACT: The River Toguz-Bulak flows from the southern slope of the mountain range Kungey Ala Tau within the district of the Cholpan-Ata Settlement. In the summer, the water of the river is almost entirely absorbed by 2 canals which irrigate the settlement farms and fields of the State Stud Farm. The remaining water flows out to the foot hill plain and reaches, underground, the Lake Issyk-Kul. The river-bed, crossing the automobile road Rybach'iye - Przheval'sk within the precincts of the Settlement Cholpan-Ata, is usually dry in the summer. The author gives a brief physico-geographical description of the river, and particulars of the flood waters coming down the river on two occasions. There are 1 chart, 1 profile and 1 graph.

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SHCHEGLOVA, O.P.

Naryn waters supplied by rain. Izv.Uzb.fil.Geog.ob-va 4:90-99  
'60. (MIRA 13:7)  
(Naryn Valley--Rain and rainfall)

SHCHEGLOVA, O.P.

Classifying Central Asian rivers according to their types of water supply. Izv.AN SSSR.Ser.geog. no.3:19-27 My-Je '61. (MIRA 14:5)

1. Sredneaziatskiy gosudarstvennyy universitet imeni V.I.Lenina.  
(Soviet Central Asia--Rivers) (Runoff)

SHCHEGLOVA, O.P.; CHIRKOVA, A.A.

Roughness coefficients of rivers in the Chirchik Basin. Trudy  
Sred.-Az.nauch.-issl.gidrometeor.inst. no.7:92-102 '61.  
(MIRA 15:3)  
(Chirchik Valley—Hydrology)

SECHEGLOVA, O.P.

Runoff sources of river basins. Trudy TashG. no.185:69-81 '61.  
(MIRA 14:12)  
(Surkhan-Darya Province--runoff)

SHCHEGLOVA, O.P.

Water turbidity and the phases of the water regime of mountain  
rivers. Izv. AN SSSR. Ser.geog. no.1:91-95 Ja-F '63.

(MIRA 16:2)

1. Tashkentskiy gosudarstvennyy universitet im. V.I. Lenina.  
(Soviet Central Asia—Rivers) (Silt)



SHCHEGLOVA, O.P.

Determining average perennial dates for the beginning and the  
end of floods in mountain rivers. Nauch. trudy TashGU no.193:  
107-112 '62. (MIRA 16:7)

(Soviet Central Asia--Floods)

SHCHENGILOVA, G.K.

Average annual distribution of the runoff of suspended silt  
carried by the rivers of Central Asia. Nauch. trudy TashGU  
no. 213 Geography no. 24:33-38 1963. (MIRA 17:5)

SHCHEGLOVA, O. P., kand. fiz.-matem. nauk; LUT, B. F.; MECHITOV, I. I.,  
kand. tekhn. nauk (Tbilisi); IVERONOVA, I. M., kand. geograf.  
nauk (Moskva); IOGANSON, V. Ye. (Moskva); LARIONOV, P. M.  
(Uzhgorod)

Mud torrents, Prioroda 52 no.1:90-96 '67. (MIRA 16:1)

1. Tashkentskiy gosudarstvennyy universitet im. V. I. Lenina  
for Shcheglova). 2. Baykal'skaya limnologicheskaya stantsiya,  
poselok Listvenichnoye, Irkutskaya obl. (for Lut).

(Runoff) (Erosion)

... ..

... ..  
Geog. abstr. no. 17 21-80 124. (1) P. 18-8,

MIROSHNIKOV, L.D.; SHCHEGLOVA, O.S.

Mesozoic sediments of the northern Taymyr Peninsula and their  
coal potential. Trudy NIIGA 80:23-40 '58. (MIRA 14:11)  
(Taymyr Peninsula--Coal geology)

SHCHEGLOVA, O.S.

Hexagonal prismatic jointing in coals. Izv. AN SSSR. Ser. geol.  
24 no. 12:91-95 D '59. (MIRA 13:8)

1. Nauchno-issledovatel'skiy institut geologii Arktiki  
Ministerstva geologii i okhrany neдр SSSR, Leningrad.  
(Coal geology)

MIROSHNIKOV, L. D., SHCHEGLOVA, O. S.

Concentration of water-soluble sulfates on the Chelyuskin Peninsula.  
Zap. Vses. min. ob-va 88 no.6:686-692 '59. (MIRA 13:8)

1. Institut geologii Arktiki, Leningrad.  
(Chelyuskin Cape--Sulfates)

MIROSHNIKOV, L.D.; LICHNEGOVA, D.S.-----

Phosphorites of the Noril'sk region. Trudy NIIGA 114: 8-83 '60.  
(MIRA 13:11)

(Noril'sk region--Phosphorites)



3 (5)

AUTHORS:

Miroshnikov, L. D., Kravtsov, A. G., SOV/20-126-2-37/64  
Shcheglova, O. S.

TITLE:

Stratigraphical Scheme of the Lower and Middle Paleozoic of  
the North-western Edge of the Siberian Plateau (Skhema  
stratigrafii nizhnego i srednego paleozoya severo-zapadnoy  
okrainy Sibirskoy platformy)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2,  
pp 359-362 (USSR)

ABSTRACT:

The scheme of the pre-Tunguskiye sediments of the region  
named in the title was hitherto very inaccurate (Refs 1, 2,  
4 and G. D. Maslov 1946-1956) and in the course of time it  
became doubtful (Ref 3). Between 1955-57, the authors studied,  
according to the different strata the cross sections of the  
above named formations in the district of Noril'sk. In the  
course of these investigations 300 types of fossils were  
determined and the following stratigraphical scheme was  
established. After the middle Cambrian (110 meters thick)  
there follows (upwards): 200 meters of the Dressbach stage  
of the upper Cambrian (V. A. Markovskiy and others 1958). A  
layer of fossil (up to 1000 meters thick) allows it to be

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Stratigraphical Scheme of the Lower and Middle  
Paleozoic of the North-western Edge of the Siberian Plateau

SOV/20-126-2-37/64

brought into correlation with an American one, which corresponds to the Frankonskiy stage of the Pacific Province. The Cambrian is limited by 100 meters thick chalk, which corresponds lithologically and with respect to its position to the Trempil'onskiy stage of the North-American Plateau. The oldest Ordovician deposits lie concordantly on the River Omnutakh on red-colored Trempil'o rocks. Organic remains are represented by Brachiopodes Finkelburgia sp. (determined by O. N. Andreyeva). This 75 meters thick layer is eliminated as Ust'-Kutskiy stage of the Lower Ordovician (Ref. 3). Higher on the Omnutakh, Chopko, Mokutey and other rivers lies a 400 meters thick mass of the Lower Ordovician (Fossil definition by V. A. Vostokova; collected by A. V. Maksudov, determined by Z. G. Balashov). Still higher on the River Omnutakh lie successive chinks of the Krivolutskaya stage of the Middle Ordovician (Collected by G. A. Polyakova; determined by A. F. Abushik and L. V. Nekhorosheva). In the vicinity of the River Imangda rocks of the Mangazeyskaya stage of the Middle Ordovician were discovered during boring operations (fossil-determination by Z. A. Maksimova and R. S.

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Stratigraphical Scheme of the Lower and Middle  
Paleozoic of the North-western Edge of the Siberian Plateau

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Yeltysheva). Thickness 37-44 meters. On the Mangazeyskiy stage there are deposited sediments of the Upper Llandovery. There follows, Venlock with the lower and upper substage, and Ludlov with the lower and upper substage. Thereupon lie concordantly, loamy chalk of the Zhedinskiy stage of the Lower-Devonian, 370-240 meters thick. Then Coblenz stage of the Lower Devonian, up to 75 meters thick, Eifel stage of the Middle Devonian, 140-170 meters thick. Then there follows the Givetian stage up to 130 meters thick, and the Frasnian stage of the Upper Devonian of a thickness of 100 meters. Fammenian stage lacks in section. On the Dolomites of the Frasnian lies a mass of dark chalk (100 meters), which according to definitions of fossils by A. N. Sokol'skaya may belong to the Tournaisian stage of the Lower Carboniferous. Still higher follows the continental Tungusskaya series. There are 4 Soviet references.

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Stratigraphical Scheme of the Lower and Middle Paleozoic of the North-western Edge of the Siberian Plateau SOV/20-126-2-37/64

ASSOCIATION: Nauchno-issledovatel'skiy institut geologii Arktiki  
(Scientific Research Institute of Arctic Geology)

PRESENTED: January 23, 1959, by D. I. Shcherbakov, Academician

SUBMITTED: January 22, 1959

Card 4/4